THE VETERINARY RECORD

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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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BOARD OF AGRICULTURE.—THE CHIEF VETERINARY OFFICER'S ANNUAL REPORT FOR 1915.

This report, in accordance with general instructions, has been considerably reduced in scope, and though the condensation has been admirably done, we miss much valuable detail that was present in former reports.

The curtailment is most evident with respect to Foot-and-mouth disease. The serious outbreak of 1915 is succintly described in little over three-quarters of a page. Some figures are given, and some records of the sites of the lesions; and we are told that "The original source of infection was not discovered." The detailed tracing of the epidemic and discussion of possible sources of infection, which was a feature of former reports, is absent from this one.

The section upon anthrax is interesting from an analysis of probable sources of infection in new outbreaks. Of 438 outbreaks on previously clean premises, 265 appeared attributable to the use of imported feeding-stuffs, and 41 to that of artificial manure, while in 70 other outbreaks both imported feeding-stuffs and artificial manure had been used. Thus, of the whole 438 outbreaks, no fewer than 376 were probably due to either imported food-stuffs or artificial manure. Further evidence against these materials is afforded by the year's geographical distribution of the disease. A large proportion of the outbreaks occurred in Scotland; and 40% of these were in two counties—Aberdeen and Banff—in both of which imported food-stuffs and bone manure are largely used.

Another fact noted is that in 56 out of 648 cases of anthrax—that is, in rather more than one-twelfth the carcase was opened before the disease was diagnosed. This, as the Chief Officer justly remarks, "shows a considerable amount of carelessness in relation to suspecting anthrax."

One or two details regarding Glanders are of interest. The 50 outbreaks during the calendar year only affected 95 horses, 18 of which were clinical cases. The outbreaks, then, ran small, though there were a good number of in-contacts; for altogether the infected premises contained 1273 horses, 95·5% of which were tested with mallein. There was one failure of mallein—a reactor which showed no lesions.

The Sheep Scab returns show an increase upon 1914 (265 outbreaks as against 226), which was almost wholly an English one—52 in England, only one in Scotland, while in Wales there was a decrease of 14. Much English and Welsh scab is attributable to the importation of infected Irish and Scotch sheep; and, while infections from Ireland diminished from 17 in 1914 to 5 in 1915, those from Scotland rose from 53 in 1914 to 71 in 1915.

Swine fever is given the chief place in the report in the matter of space, and is a subject of especial importance under present conditions. The section is reprinted in full at pp. 14-15. In the general attempt to increase the food products of the country, the small pig-keeper is to be encouraged, and this may very possibly lead to the dissemination of infection, and must inevitably call for greater vigilance on the part of local practitioners if the disease is to be held in check. The progress recorded in the report is a distinct advance. Although the measures taken have not yet fully emerged from the stage, they mean, at the least, a material saving in the national food supply.

Other considerations are forcing themselves into notice on the preventive side of the problem. In U.S.A. for years past, more recently in Queensland, and now in this country, the practice of grazing swine is coming to the front. In the agricultural journals the subject is frequently mentioned, always as a successful undertaking, and Mr. S. F. Edge, of Ditchling, Sussex, states that he is keeping 4000 swine, and intends to double his herds. *Per contra*, in a report of the Canadian Veterinary Department a year or two ago, it was reported by the State Veterinary Officers of widely separated districts that outbreaks of swine fever were coupled with the feeding of hogs on town refuse. The evidence of connection was wholly presumptive, but most country practitioners know that some pig-feeding puts unhygienic dairying in the shade. If, in the future, the State gives a more prominent position to the veterinary profession, preventive measures, as in human medicine, will occupy a greater share of our attention.

A considerable amount of swine erysipelas and porcine tuberculosis was incidentally discovered while investigating swine fever outbreaks.

The figures are 2503 outbreaks of Swine erysipelas (involving 16·2% of the pigs in the infected herds) and 571 outbreaks of tuberculosis (involving 11%). This shows that we must be suffering seriously from these two preventable diseases.

Lastly, the manufacturing department of the Board's laboratories has been busy in 1915. Serum was distributed for use in connection with swine fever outbreaks to the amount of 553,000 c.c.; and 3760 doses of anti-abortion (A) vaccine—that is, the living culture for use upon non-pregnant animals were issued for the trial of preventive inoculation in infected herds.

In addition, a few animals—37 in all—were immunised against red-water for British exporters prior to shipment to infected countries.

HORNY TUMOUR OF THE HORSE'S FOOT.

The subject was a strong, light draught bay gelding, about eight years old. He was reported to have been working soundly until the day I saw him.

I found him very lame of the off hind leg: the lameness was located in the foot, and the seat of pain was the inside heel—an apparent "stab track" was found, from which exuded slightly purulent blood-stained fluid. Horn was cut away from the sole, over and around the apparent stab, and there appeared to be a cavity containing cheesy, shelly horn running into the foot at the heel immediately in front of junction of bar and wall. Sensitive tissue having been exposed around, as much cheesy material as possible was removed, and antiseptic poultices were ordered.

The animal was seen by me again the third day; it was then found that the cavity had a distinct circular horny wall, and this wall was found to be movable in the surrounding sensitive tissue; it was removed intact, and was found to be a cone of horn —a horn tumour. The cavity now remaining in the sensitive tissue at the heel was dressed antiseptically for a few days, and the animal was going "sound;" an antiseptic compress was applied, and he was shod with leather and sent to duty.

The horny body was forwarded to Sir John M'Fadyean, who described it as a horny tumour, and informed me that he had passed it on to Prof. Macqueen. The case is recorded since it is the first case of this nature the writer has experienced.

A. N. Foster, Capt. A.V.C.

MILK FEVER AFTER ABORTION.

I was very interested to read Mr. Bond's article on Milk Fever. Although no microscopic examination was made or other test employed in this case, the appearance of the placenta seems typical of contagious abortion, and the symptoms the animal showed are those we usually associate with milk fever in an aged cow.

Mr. Brown, of Invergordon, asks if any other practitioner has seen a case of milk fever after abortion, as he doubts the diagnosis in Mr. Bond's case. I have now had two such cases within the past 18 months. The first case was a milk-record Ayrshire cow at her third calving. She was one of a herd of which 20% had aborted. She cast calf at seven months and retained the afterbirth. Microscopic examination of the discharge showed numerous abortion bacilli. This animal calved at 5 a.m., and was down and comatose at 4 p.m. I injected the udder at 6.30, and she was up and looking well again at 4 a.m. next morning. No medicine was given. The animals in this herd were injected with Anti-abortion "A," but this animal being in calf was not done.

My second case occurred on the same day as Mr. Bond's article appeared in the *Record*. The subject was an 8-year-old Ayrshire cow at the fourth calving. She calved at 7 months 10 days, at 3 a.m., and retained the placenta, which was typical in appearance to Mr. Bond's case.

I saw her at 10 a.m., when she was down, semi-comatose, neck arched, and grinding the teeth. Temperature 100. From the appearance of the case everything pointed to milk fever. I injected the udder and had her well propped up. At 5 p.m. when I returned she was up and eating grass. No medicine was given; and she made an uninterrupted recovery.

I have no hesitation in saying the condition does occur after abortion.

W. Wallace Peggie, M.R.C.V.S.

Nithsdale, Biggar, July 5th.

[Where is the line drawn between abortion and premature birth.]

ACETOZONE IN JOINT-EVIL AND SCOUR.

Re Mr. H. Walpole's note on treatment of Joint-evil with Acetozone, in last week's *V. Record*.

I have for some little while been using this treatment with the exception of the injection, as I have found my cases all go on quite satisfactorily with the oral treatment alone. I use a solution of grs. xx to Oj of water, and give ʒi of this three times daily. If the urachus is pervious I apply a little Ung. hydrarg. biniod. (1:8) daily, usually with excellent results.

Have also found the same solution of Acetozone of great service in the treatment of scour in calves. I give ʒi every four hours in a little milk, till relieved.

Lechlade. J. R. Baxter.

DISEASE OF PYRAMIDAL PROCESS OF THE PEDAL BONE IN THE HORSE.

Characteristics. Enlargement on the coronet at the front of foot in the median line, rather tender to the touch, easily seen, unsightly, hair grows rough and uneven; pointing of the foot, lameness, horse walks on its heel as in laminitis, but not quite the same, the toe inclined to turn up.

Caused by treads, blows, dropping of the shaft on the horse's foot when being let out of harness. At first troublesome, inclined to get bigger apparently. The enlargement grows; it may be induced by a prick in shoeing, and the matter working its way to the top of the hoof makes the coronet swell and become tender.

The condition not often seen by the veterinary surgeon until somewhat advanced and the lameness acute.

Treatment. Poultices to foot, blister to the coronet, a run at grass; but before turning out have the animal shod with half shoes—what the Irishmen call "slippers," with a wide web, thin and bevelled off the last inch and a half. This makes the heel of the foot and the frog touch the ground. Frog pressure is essential to recovery. By pressure on the frog, increased blood circulation takes place. Increased circulation means increased nourishment, increased nourishment means increased growth,

increased growth means increased function, and with increased function disappearance of lameness. This treatment answers in almost every case.

During treatment the animal can be worked on the land. There is no need to fire either by line or puncture firing.

The condition is often mistaken for low ringbone. In true ringbone, lameness, in my experience, is never absent. The subject, if a mare, may be bred from—it is not hereditary—and do useful work for years. About six months is required for a cure.

Plymouth. P. G. BOND.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TREATMENT OF DISTOMATOSIS.

J. Marek has published an article upon this question (*Boll. Int. d'agric.*, 1916). During the summer of 1913, Hungary was invaded by numerous contagious diseases; and distomatosis, in particular, caused enormous losses. This fact, and the publications of Railliet, Moussu, and Henry upon the treatment of distomatosis by means of extracts of male fern, led Marek to more completely study the disease on a large scale, and to make experiments in treatment upon 65 cattle and 87 sheep.

The subjects were examined by the author from time to time, and then slaughtered in the public abattoir of Budapest. The liver and the appended organs were studied histologically. A few animals died during the observation.

The anatomical alterations in the livers of the affected animals corresponded with those already known, except that in cases of severe invasion the lesions were more grave in cattle than in sheep. Another characteristic and little observed anomaly was that, in both species of animals, the left lobe of the liver was more attacked by the disease than the right lobe, being more extensively invaded by distomes. Marek also found some slight cases of distomatosis in which only the left lobe of the liver contained distomes, which perhaps may be explained by the fact that it is more easy for the parasites to invade this part. This question, however, is not yet resolved.

In one ox and three sheep, besides distomes of average size, there were found some individuals from 10 to 15 millimetres long, having the uterus full of ova; and other individuals from 5 to 10 millimetres long, with the uterus empty.

The number of parasites in 20 *untreated* cattle ranged from 116 to 1660.

The majority of the parasites belonged to the species *Distoma hepaticum*. There were few of *Distoma lanceolatum*, and these always accompanied the first-named species. One exceptional case, a sheep, contained no less than 888 specimens of *D. lanceolatum*. It is not yet established with certainty whether the number of *D. lanceolatum* increases proportionally to that of *D. hepaticum;* but it seems probable that it does.

In animals affected with distomatosis, the bile was always altered. Its liquid portion was more thick and mucilaginous than normal, and dirty greenish brown in colour; its solid portion was composed of distomes. The gall bladder was increased in size.

The external symptoms of the disease could only be demonstrated in cases in which the distomes present numbered at least 250 in cattle or 100 in sheep. The size of the liver was increased only in some cattle (29 cases); in sheep, it was always normal. The affected cattle rarely showed intestinal disturbances, but were often feverish. The number of the ova of distomes contained in the faeces varied with the faecal consistence; it was less in the case of diarrhoea, in which the rapid circulation of the excrements prevented them from being overcharged with ova. After fasting, a larger number of ova were found because the excrements had remained longer in the intestine. In general, the excrements of cattle contained fewer ova than those of sheep. The number of ova of *D. lanceolatum* in the excrements varied more than that of ova of *D. hepaticum*.

Treatment: Marek's work so far has led him to the following conclusions.

It is possible to effectually combat distomatosis *in sheep* by means of medicines, particularly when the livers of the animals are not yet severely altered by the disease. Administering sufficiently strong doses of Kamala to 100 affected sheep, Marek found that 85 recovered, and in the other 15 the distomes were so weakened that they were no longer able to seriously menace the animal's life. Better results were obtained from Kamala itself than from preparations containing it. One such preparation, called "parasitina," though it gave relatively good results, was nevertheless less efficacious than kamala. Another, called "calbazene," contains too little kamala to be efficacious.

In the case of sheep one year old and more, it is advantageous to administer 15 grammes of kamala, divided into two doses, in a period of from 12 to 24 hours. In the case of strong robust animals, this quantity may be given in a single dose. In weak animals, or those affected with diarrhoea, the quantity given may be augmented to 20 grammes, and this divided into five doses.

After the administration of kamala the sheep appear weakened for from three to five days. They remain lying down, eat little or nothing, and suffer from diarrhoea. They have no other symptoms of illness. Under the influence of kamala the distomes die in period of from three to eight days, and are expelled with the bile into the intestine. The ova resist the action of kamala longer than the distome; but they also at the end of eight days are destroyed and expelled from the body.

The expense of treatment with kamala is very small.

The use of extract of male fern was disappointing. In sheep, it only destroyed half the distomes. This ill-success arose principally from variations of the active substances of the fern, in accordance with the habitat of the plant and the method of preparing the extract. It should, moreover, be considered that the great toxicity of this extract hinders its

administration for a sufficiently long period. It should, therefore, only be used in cases in which it is impossible to procure kamala and in which one is certain of securing a sufficiently strong extract. But even in the latter case, one cannot be certain of attaining the desired result. *For cattle*, the extract of male fern is completely inefficacious. On the other hand, the excellent results which Marek has obtained with kamala in sheep lead him to suppose that that drug will be equally efficacious in cattle.

All the good results which Marek obtained exclusively relate to the *D. hepaticum*. The *D. lanceolatum* was never killed by curative measures. The latter parasite, however, is only of secondary importance, as it is only found in animals in small numbers, and the distomatosis it provokes is not so dangerous as that caused by *D. hepaticum*.

If Marek's experiments succeed in demonstrating that kamala destroys the *D. hepaticum* in cattle, it will be possible in the future to diminish the cases of disease appearing at pasture. To this end, it will be necessary to adopt the following method:—Treat all the animals (cattle and sheep) with kamala at the beginning of the winter, then collect the dung for the next two weeks and make it into a separate heap. This heap is afterwards to be covered with dung from healthy animals, with the object of killing the ova of the distomes by processes of decomposition. The same operation is to be repeated in the spring, immediately before the animals are turned out to pasture, to kill the few distomes that may have survived the first treatment. If cases of distomatosis appear during pasturage, the affected animals should be isolated and treated anew with kamala. Newly purchased animals, also, should be treated with kamala immediately after they are bought, if it is not certain that they are healthy.—(*La Clinica Veterinaria*).

W. R. C.

SWINE FEVER.

[Section of the Annual Report of the Chief Veterinary Officer to the Board of Agriculture.]

A special report dealing with investigations into certain problems, including serum treatment and vaccination, was presented to the Swine Fever Committee by the Chief Veterinary Officer, and was published as an Appendix to their Report (Cd. 8045).

Three special leaflets dealing with serum and serum treatment for swine fever have also been prepared and issued for the information of pig-owners and veterinary inspectors. It is, therefore, unnecessary to give a further detailed reference in this report. Following upon the Committee's report, and commencing on the 26th September, veterinary inspectors on visiting outbreaks of swine fever were instructed to offer to treat with serum all pigs on the premises which were apparently healthy at the time. Owners were also given the option of having their ailing swine slaughtered with compensation, or keeping them to mix with the healthy pigs after the latter had received serum. The object of the mixing was to give the healthy pigs a mild attack of the disease while under the influence of serum for the purpose of endowing them with a lasting immunity.

The results of the treatment in practice are available only for those outbreaks which occurred in the last quarter of 1915. It may be explained that, if pigs remain alive on infected premises, the outbreak cannot be considered closed for at least three months, and therefore the full results in relation to some outbreaks which began in December did not become available until April, 1916.

The question is somewhat involved owing to: –

(*a*) The changes in procedure or policy not having taken place at the beginning of any one year;

(*b*) Two results having to be brought out, viz., the results of serum treatment as a preventive, and its results as an applied policy.

Both the matters referred to in (*b*) are intimately connected, and must be discussed together, but the difference may be summed up shortly, as indicated in the chief veterinary officer's report to the Swine Fever Committee, by saying that a method in itself excellent may lose a greater or lesser amount of its value, owing to the conditions under which it has to be applied in practice. The latter is what is referred to by serum treatment as a policy.

To follow the question in its various bearings it is necessary to go back to 1913 and 1914, and explain that the loss of pig life through swine fever has been due to direct and indirect causes made up as follows:—

(*a*) Pigs slaughtered by the Board for diagnosis; usually ailing pigs;

(*b*) Pigs slaughtered by the Board in the expectation that their removal by slaughter would curtail the duration of outbreaks, and prevent wider dissemination of infection; these were usually healthy pigs in various stages of maturity, from unweaned to fat, sows, and boars.

(*c*) Pigs which died of swine fever, or were killed as diseased and useless by their owners.

(*d*) Pigs slaughtered by the Board, because they were distinctly ailing on the day or days the veterinary inspector first visited the outbreak. This did not operate until the last quarter in 1914.

In the year 1913 there were 2573 outbreaks. The number of pigs on the infected premises was 56,508. The total number which died or were slaughtered was 41,811 = 74 per cent. of the whole. The number slaughtered under (*b*) was 32,034.

That serum treatment as a policy aims, *inter alia*, at preserving this large number of pigs (that means in many cases only until fit for slaughter).

The year 1914 was a transition year, that is to say, the same procedure as in 1913 operated during the first three quarters, but in the fourth quarter it was modified. The slaughter under (*b*) was practically given up in the fourth quarter, and the slaughter of distinctly ailing pigs as stated in (*d*) was substituted. The number of outbreaks was 4356. The number of pigs on the infected premises was 97,880. The number which died or were slaughtered, was 59,185 = 60 per cent. of the whole.

The year 1915 was also a transition year. The same modified procedure operated as in the fourth quarter of 1914, *i.e.*, the slaughter of distinctly ailing pigs by the Board was continued, but in addition in the last quarter of the year the Board put serum treatment for those swine which were apparently healthy at the time of the veterinary inspector's visit, at the disposal of all owners of infected premises who would accept it.

In the first three quarters of the year (*i.e.*, before serum was offered) there were 3163 outbreaks. The number of pigs on the infected premises was 72,345. The number which died or were slaughtered was 30,396 = 42 per cent. of the whole.

In the fourth quarter there were 831 outbreaks which may be divided into those in which serum was used, and those in which it was not used.

In 441 outbreaks serum was not used because :—

(1) No pigs remained on the premises at the time of the veterinary inspector's visit, or the owners had themselves decided to kill off all their pigs and re-stock—274 cases.
(2) There were practically no suitable or healthy pigs on the premises—68 cases.
(3) Owners refused—98 cases (11·9 per cent. of the whole).
(4) Serum was not offered—1 case.

There were 8,117 pigs on the infected premises. The number which died or were slaughtered was 4,172 = 51·3 per cent. of the whole.

In 390 outbreaks serum treatment was accepted and carried out (46·9 per cent. of the whole).

There were 16,011 pigs on the infected premises. The number which died or were slaughtered was 5,705, 35·6 per cent. of the whole.

It would appear, then, in so far as the results in the one completed quarter in relation to the outbreaks treated by serum is a guide, that 64·4 per cent. of the pig life was maintained—as compared with 26 per cent. in 1913 before any modification as to slaughter was introduced, and 40 per cent. in 1914.

As regards the results during the same quarter on premises on which serum was not used, and when slaughter with compensation was practically restricted to ailing pigs not likely to recover, 48·7 per cent. of the pigs survived, but it has to be noted that amongst the surviving lot are included the pigs of 62 owners, who slaughtered out their pigs rather than risk keeping them. The figure is really below 48·7 per cent., but it has to be assumed in cases where the owners slaughtered, that they were able to save their pigs' lives in the business sense.

On the premises where serum was used 64.4 per cent. of the pig life was maintained. So far with serum, as a policy, then, considerably better results were obtained than without it.

These results so far indicate that there is less wastage of pig life from swine fever than from slaughtering the stock on infected premises, and that serum treatment as a policy helps further to reduce considerably the mortality from the disease.

It appears from closer analysis of the outbreaks, however, that serum treatment in its application in practice has had to carry at least two heavy handicaps :—

Firstly, there is the inevitable drawback that the serum is not curative, and, as differentiated from vaccination, gives only a short protection in the absence of infection so that the treatment has to be applied by following in the wake of infection, and cannot be used successfully to get ahead of it. Consequently there is always likely to be a certain number of dead and ailing pigs before the treatment can be applied.

Secondly, the slaughtering of distinctly ailing pigs with compensation at least tends to remove the incentive to report early, that is before a considerable proportion of the pigs are beyond treatment.

The analysis shows :—

(1) That of the 16,011 pigs on the premises where treatment was applied, 2334 (14.5 per cent.) were dead before opportunity arose for treatment, and at least 2581 (16.1 per cent.) were in the grip of swine fever, total 4915 (over 30 per cent. of infection) were beyond treatment. These must be, however, and have been in the above statement, debited to serum in valuing the treatment as a policy, on the grounds that under such circumstances defects inherent to its application in practice must be counted against any method. Whether the treatment in practice can be relieved of its handicaps to a material extent by speeding up the application of treatment in various ways is another question. It would seem possible that the Board could be put in touch with outbreaks before 30 per cent. of the pigs on an average are dead or infected.

(2) That the total loss among the 16,011 pigs on serum premises was 5705 (35.6 per cent.), but if it were permissible from a practical point of view to deduct those which died, or were slaughtered as ailing, before opportunity arose for treatment, and those which were in the grip of swine fever when treated, the loss would amount only to 5 per cent.

From this 5 per cent., however, there also falls to be deducted 2 per cent. of swine on the infected premises which, for various reasons could not be treated, and which presumably died of swine fever.

Ceylon Administration Reports for 1915, by Mr. G. W. Sturgess, M.R.C.V.S., Government Veterinary Surgeon. [Abridged.]

Staff.

Assistant Veterinary Surgeons—Colombo : Mr. E. T. Hoole, G.B.V.C. ; *Nuwara Eliya :* Mr. M. D. S. A. Wijayanayaka, G.B.V.C. ; *Kandy :* Mr. G. B. De Silva, G.B.V.C. ; *Ratnapura :* Mr. V. A. Hoole, G.B.V.C. There is also a Manager, Government Dairy ; Assistant Manager, Ambepussa Farm ; Laboratory Assistant, and fifteen Stock Inspectors.

In January, Stock Inspector J. I. Apponso went to the Bombay Veterinary College to obtain qualification, in place of Mr. M. D. S. A. Wijayanayaka, who returned qualified, and was stationed at Nuwara Eliya.

Infective Diseases.

The Island was comparatively free during the greater part of the year.

Horses. The only outbreak of importance was one of anthrax amongst the Government (Police) horses. On Sunday, September 26, one of twelve horses was reported ill. The symptoms were slight abdominal pain and fever (temperature 106.6° F.), for which he was treated.

On Monday, September 27, the pain had passed away, bowels and kidneys acting as usual, temperature still high (106° F.), mucous membranes slightly reddened, no distress in respiration, and no maxillary swelling. Muscular tremor was present, and slight swelling of the off elbow, as if capped.

On Tuesday morning, 28th, the general appearance was much the same : temperature 106.8° F., pulse 80–90, submaxillary swelling present. In the evening the symptoms were somewhat more pronounced, but no distress was shown ; temperature 106° F. A small mash with carrots had been eaten and water taken ; the action of the bowels and kidneys was normal. On my attempting to examine the eye membranes he commenced to blink his eyes rapidly, yawned several times, turned round in a circle three or four times, and fell in a convulsion. After lying half an hour he got up and walked into his stall. He appeared dazed, but no respiratory distress was shown, and he stood quietly. The submaxillary swelling was somewhat more pronounced than in the morning, but not extensive. My attention was attracted to a slight reddish watery discharge from the nostrils, resembling carrot juice. Blood smears were made and examined, with a negative result.

On Wednesday morning, 29th, his condition was much worse : temperature 105.2° F., increase of submaxillary swelling, and profuse orange-coloured discharge from both nostrils mixed with yellow clots and small pieces of blood-tinged mucus. There was pronounced stertorous respiration, which commenced at 3 a.m. Prepar-

ations from the nasal discharge were examined for *B. anthracis*, with a positive result. Agar plate cultures were made, which showed characteristic colonies of *B. anthracis* next morning.

Thursday morning, 30th, he dropped and died quickly at 4.45 a.m. Blood smears made shortly after death from ear blood were negative for bacilli.

He had been in isolation, and after death the carcase and everything in connection with it were burned. No further cases occurred. The case is outlined, as such a long duration of anthrax is not common.

Cattle: Rinderpest. There was a marked decrease of outbreaks of this disease during the year. Western Province: 21 cases, 18 deaths, 1 recovery, and 2 shot; Central Province: 36 cases, 14 recoveries, and 22 deaths; the Northern and Southern Provinces were free; Eastern Province: 290 cases, 99 recoveries, and 191 deaths; the North-Western and North-Central Provinces were free; Province of Uva: 227 cases, 48 recoveries, 125 died naturally, and 54 shot; Province of Sabaragamuwa: 919 cases, 110 recoveries, 796 died naturally, and 13 shot. At the close of the year the island was free.

Foot-and-mouth disease. Outbreaks occurred in eight provinces: 2366 cases, 2425 recoveries (including 128 cases at the end of 1914), 49 deaths, balance ill at the close of the year 20, including Colombo town and quarantine station. There was a marked decrease compared with 1914, when 9532 cases occurred.

Surra. In my report for 1912–13 reference is made to a bull treated for surra with sodium arseniate. The animal was branded for identification. On July 26, 1915, I had the opportunity of seeing him again. He was in good health and working regularly. 3 c.c. of blood was drawn from the jugular vein and a rabbit inoculated and kept under daily observation until September 14—result, negative. (The rabbit is still in perfect health, January 6, 1916.)

Tuberculosis. This disease is rare amongst native cattle. In July I had a suspicion that a country-bred Ayrshire cow (from imported parents) was affected, and tested her with tuberculin obtained from the Royal Veterinary College, London. A well-marked reaction followed, and she was slaughtered. On careful post-mortem examination, in the presence of two medical officers, no trace whatever of tuberculosis could be found. Her chart is annexed: (It shows July 22–23, 36 hours before injection, F. 101 2: 102: 101.1. 10 p.m. injection 3 c.c. tuberculin, 101.4. July 24, at 4 a.m. and three hour intervals, F. 102.3: 103.2: 105.1: 105.3: 103.8: 103.3: 103.5 (10 p.m.). July 25. 6.30 a.m., 101.5).

Remarks. Country-bred Ayrshire cow, born January 12, 1909. Condition: moderately poor, skin tight, no cough, udder normal, fæces normal, chewing the cud at time of injection. Post-mortem, September 23, 1915.

A similar case occurred on a previous occasion in a herd of 12 cows tested. One gave a well-marked reaction and was slaughtered, but no tubercular lesion was found.

Anthrax and Hæmorrhagic Septicæmia. No serious outbreaks of these diseases occurred during the year.

Return of Infective Diseases for 1915.

Anthrax	...	Cases 50	Deaths	50
Hæmorrhagic septicæmia		„ 24	„	4
Red water	...	„ 7	„	6
Rinderpest	...	„ 1493	„	1221
Hoof-and-mouth disease		„ 2366	„	49

Rabies.—Cases examined 17: positive 5, negative 12, Patients to Coonoor for treatment 72.

The Director of the Bacteriological Institute, Colombo, and the Director of the Pasteur Institute, Coonoor, kindly furnished the above information.

Epidemic amongst Swine. In the first quarter of 1915 an extensive outbreak of a disease resembling swine fever occurred in the Western Province, especially in Alutkuru Korale South. Attention was first drawn to the disease on March 16, by the condition of the carcase of a pig slaughtered that morning at the Colombo slaughter-house, which the Assistant Medical Officer of Health, Colombo, asked me to see with him. The Superintendent of the slaughter-house, who has been there many years, never saw a similar case before amongst swine brought for slaughter, and Mr. F. L. Daniel, who has been a resident in the district for over half a century and kept pigs, informed me he had never experienced a disease of this nature either in the district or anywhere else in the island. This gives good ground for the belief that the outbreak was of a kind not experienced before in Ceylon. Personally I have never met a case during a residence of over twenty years.

The appearance of the carcase pointed to a disease of the type of an acute hæmorrhagic septicæmia. The skin was scarlet over most of the body surface, the lymph-glands and kidneys were extremely dark and hæmorrhagic, and blood spots were found on most of the serous surfaces. There was an abundant yellow semi-gelatinous effusion in the subcutaneous and intermuscular connective tissue; the spleen was normal, and the liver pale and yellowish in colour. The lungs showed slight patchy congestion, but not extensive. Hæmorrhagic ulceration of the intestines was present. Preparations examined were negative for anthrax.

Inspectors were promptly sent out into the district to make inquiries, and very soon evidence came in of an extensive outbreak. In no instance was the existence of the disease reported, although pigs were dying in some villages by scores. Movement and sale of swine or pork were prohibited in infected villages, and Inspectors authorised to destroy sick pigs, with the result that the outbreak rapidly subsided, but not before it had reached the borders of the North-Western Province. It was estimated in the Western Province there were 2431 cases, 2401 deaths, and 30 shot; and in the North-Western Province 81 cases, 13 deaths, 1 recovery, and 67 shot.

As far as can be ascertained, the outbreak started in November, 1914, near Lansiyawatta, a village on the bank of the Kelani river, close to Colombo, and spread to other villages. It is said that before the outbreak the pools and backwaters of the river contained a good deal of sewage, and the villagers consider the outbreak resulted from this contamination.

The symptoms resembled acute swine fever in many respects, but the disease appears to be of a different nature. In no case seen was cough or diarrhœa observed during life, or typical ulcerative lesions in the digestive canal, or necrotic areas in the lungs on post-mortem examination. Inoculation of a healthy young white European pig with 3 c.c. of the filtrate from the blood of a dead pig gave a negative result. Appearances also suggested acute swine erysipelas, but in no case was the skin lesion characteristic, or any valvular complication of the heart noticed. Only in one instance was the heart involved, when the pericardium was found closely adherent to the heart wall.

The general symptoms were dullness, loss of appetite, constipation, catarrhal discharge from the eyes, more or less diffuse, irregular purple rash on the skin, and fever, the temperature running up to 105° F. or 106° F. in the early stages, with a tendency later to be subnormal, especially in the morning. Before death giddiness and tremor of the head was common. The duration of the disease was short, death usually occurring within a week. The fatality was 90 to 100 per cent.

On post-mortem examination the lesions were not very pronounced. The heart was normal except in one instance, when the pericardium was adherent. A yellow

serous effusion was sometimes present in the pericardial sac. Petechiæ were seen on the pleura. The lungs showed catarrhal pneumonia, but were not extensively involved. Yellow serum was generally present in the body cavities. The mucous membrane of the stomach was congested. The intestines showed hæmorrhagic spots and ulcerative lesions, but the small intestines were usually thin and distended with gas. The mesentery was usually very congested. The lymph glands were usually much congested, but in some instances pale and watery. The liver was enlarged and darker in colour, kidneys congested, spleen normal.

At the time of the outbreak bubonic plague had appeared and was prevalent in the island, and at the outset it was feared the epidemic amongst swine was in some way connected with human plague. This does not appear to be the case, unless that disease (if communicable to swine) takes a different course, and the causal organism an atypical form.

The disease does not appear to be either swine fever or swine erysipelas, but an acute septicæmia and toxæmia of the nature of swine plague (*Septicæmia suum* or *Pasteurellosis suum*, *Pneumonie contagieuse du porc* in France, *Schweineseuche* in Germany). Mr. E. Burgess, Acting Director of the Bacteriological Institute, made a study of the disease. He describes* the organism obtained from three pigs as a diplobacillus or diplococcus, 0.5 by 0.4 microns in size, non-motile, and gram negative. He obtained the organism in pure or almost pure culture from the spleen, and in one instance from the lungs, liver, and a lymph gland. On agar, gelatin, and serum media the growth was thin, whitish or transparent; no liquefaction. In broth the organism produced slight turbidity, but no pellicle. In media containing various sugars a slight degree of acidity was produced, but no gas; no change in litmus milk; no reduction of neutral red; slight formation of indol, and possibly some reduction of nitrates. Agglutination experiments were negative. Intraperitoneal inoculation of guinea pigs with 18 or 24 hour broth cultures caused death within 24 hours. The symptoms during life being weakness, difficulty in movement, no diarrhœa. Just before death the animal lay motionless. On post-mortem examination there was marked subcutaneous congestion, the tissues being purplish-pink in colour, with congestion of the peritoneum and small intestine, and marked congestion of the inguinal glands. Excessive quantity of fluid was noticed in the peritoneal cavity, and the liver, lungs, kidneys, and spleen were apparently normal. The organism was recovered from guinea pigs and fresh inoculations made, with the same result.

The Medical Officer of Health, Colombo, kindly informs me, with reference to the bacteriological examination in the Public Health Laboratory of the case at the slaughter-house on March 16, that bipolar staining organisms were found in the heart blood, spleen, and mesenteric glands, especially the latter.

Mice inoculated with 6 m. gland substance in sterile salt solution died within 24 hours, and on post-mortem examination showed an excessive quantity of straw-coloured fluid in the pleural and peritoneal cavities, marked congestion of the subcutaneous tissue and glands, spleen enlarged, slight hepatization of the lungs, and subcutaneous hæmorrhage in the cervical region.

Preparations from the heart blood and spleen showed bipolar staining bacilli in large number and in pure culture. Broths inoculated from heart blood showed a pure culture of *Pasteurella suis*. Cultures in MacConkey's sodium taurocholate medium gave the following reactions:—

Glucose: Lævulose: Mannite: Galactose: *P. suis*. Negative; *B. pestis*. Acid.

In broth (C olive oil), both gave Stalactite growth.

The organism readily showed bipolar staining with all ordinary basic stains, and was gram negative.

Legislation. Notifications have been issued as follow:—September 26, 1911. The new regulations disallow the removal by land or sea of any part of the carcases of cattle or wild animals during the existence of rinderpest, and for a period of five years after it has ceased to exist.

October 7, 1911, regulation 1 of equine disease regulations has been amended, so as to provide for the due inspection of imported horses, asses, and mules before removal from the Customs.

May 15, 1914, an amended regulation is substituted *re* importation of horses, asses, and mules. The regulation provides for the discharge by the Customs officer at Talaimannar of animals brought to that port, so that they may be taken to Colombo by train for inspection by a duly authorised veterinary inspector.

November 26, 1912, adds to regulations relating to galas. These new regulations require the person in charge of any gala to keep a register of cattle halting there, when ordered by the Government Agent or his Assistant.

June 30, 1914, requires any person who wants to send cattle or other animals by rail from an infected area to produce a certificate from a veterinary surgeon, or otherwise satisfy the railway authorities that the animals are free from disease.

April 6, 1915, brings into force the regulations relating swine disease.

The total number of cattle for the whole island is 1,555,234, and the number of deaths from all causes is 14,272, giving a percentage of ·917.

Anti-rinderpest serum. Cattle inoculated in 1915, 36; remained free, 32; became ill within a month, 4; recoveries, 2; deaths, 2.

Colombo Quarantine Station. Number of cattle admitted during 1915. The Municipal Veterinary Surgeon kindly furnishes the following information:—

Cattle admitted	...	6,739
Buffaloes admitted	...	4,358
Sheep and goats admitted	...	7,2320
Cattle imported for slaughter	...	4,546
Milk cattle imported	...	856
Cattle imported for work (draught)		1,337
Buffaloes imported for slaughter	...	1,451
Milk buffaloes imported	...	907

MISCELLANEOUS.

Cancerous Horn Disease of Cattle. Several cases of this disease have occurred amongst dairy cows during the year. The disease is believed to be of a cancerous nature, and for some reason, unexplained at present, the right horn is usually the one affected. I have seen it mentioned that the disease is common in India, due to the irritation and injury caused to the right horn by yoking. As the cases under my notice were cows, and never yoked, this supposed cause is negatived. The epithelioma does not develop at the outset, but, in my experience, after the horn is shed. The first lesion is a progressive formation of cheesy material, which in course of time entirely fills the horn. The bony core is entirely obliterated. This appears due to bacterial processes of a necrotic nature.

The earliest signs are a gradual drooping of the affected horn until it is almost down to the ear level. On manipulation it is movable, hot, and somewhat swollen at the base. It is quite soft, and can be severed by a knife, like cheese. It is not putrid unless an opening has formed. Commonly a slight blow while feeding or rub-

* *Tropical Veterinary Bulletin*, Vol. III., No. 4, Dec. 30, 1915, Imperial Institute, S. Kensington, London, S.W.

bing detaches it from the skull. The whole cavity is full of cheesy material, which is easily pulled out in masses.

It is then that the serious trouble commences. From one point or another of the marginal area of the skull cavity rapid malignant growth appears and resists all attempts to heal it. The only chance of successful treatment is amputation in the earliest stage, as soon as the affected horn is observed to be on a lower level than normal. As a rule, early slaughter is advisable before the animal emaciates and the carcase is ruined.

Biting Flies. In October specimens of flies causing worry to cattle in the Matale district were sent in by the Assistant Veterinary Surgeon, Kandy. The Government Entomologist identified these as *Hæmatopota singallensis.*

Sarcoptic Mange in Goats. In June it came to my notice that goats in the Mannar district were suffering largely from a form of mange, which caused emaciation and death of badly infected animals. Skin scrapings were obtained for examination, and the presence of a sarcopt easily detected. Treatment by dipping in a solution of Izal (1 oz. to each gallon of water), followed by the application of a mixture of kerosene, sulphur, and cocoanut oil where necessary, was very effective in eradicating the disease.

How Swine fever is spread.

The practice of burying pigs in back gardens was strongly condemned at the Southport Police Court recently, when Michael Eccles, John Birch, Moses Lloyd, and Arthur Alty, all of Guildford Road, Birkdale, were each fined £5 for failing to notify cases of swine fever. Alty and John Rimmer, Stamford Road, Birkdale, were fined 40s. for not keeping a proper register of pigs bought and sold by them. A police sergeant said that he dug up three pigs in Birch's back garden, and defendant said he did not know how they got there. Lloyd, in whose garden other pigs were buried, said the children must have put them there. Alty had four pigs buried in his garden, and there were 136 unaccounted for on the sales side of his book during the last four years. Rimmer had sixty-three pigs unaccounted for during the last eight months. He had eleven pigs buried in his hen-pen. The Bench said that the Health or other Local Authority ought to try and stop the burying of pigs in back gardens.

ARMY VETERINARY SERVICE

Extracts from *London Gazette*,

WAR OFFICE, WHITEHALL, June 29.

June 30.

The following dispatch has been received by the Secretary of State for War from Lt.-Gen. the Hon. J. C. Smuts, Commander-in-Chief, East African Force :—

General Headquarters, East Africa,
May 8, 1916.

My Lord,

In accordance with the last paragraph of my dispatch dated April 30, 1916, I have the honour to bring to notice the names of those whom I recommend for gallant and distinguished service in the field.

* * * * *

STAFF—Temp. Lt.-Col. R. J. Stordy, E. African V.C.
Major W. Jowett, S. African V.C.
SP. RES.—Lieut. (temp. Capt.) W. W. Henderson, E. African V.C.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lieut. W. A. Dellagana relinquishes his commn. on term. of his engagement (June 19).
To be temp. Lieut :—L. J. Kelly (June 14).

July 1.

Temp. Lieut. L. H. Leach relinquishes his commn. on termination of engagement (June 22).

July 3.

Temp. Lieuts. to be temp. Capts. :—T. G. Heatley, F. W. Cosgrove, J. McK. Brown, C. J. Clibborn (June 21); J. H. Taylor, F.R.C.V.S. (June 22).
To be temp. Lieut. :—A. T. Crowther (June 19).

July 6.

To be temp. Lts. :—T. J. Kenny (June 19).

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

July 1.

The date of the following Lts. to be Capts to be Aug. 5, with precedence next above Capt. J. H. Thomson, instead of as previously notified :—C. A. A. Ewin, G. McIntyre, W. N. Jürgensen, H. McVean, J. Hill, H. E. Powell, J. P. Heyes.
Temp. Lts. to be temp. Capts. :—R. W. Paley (Apl. 23); R. Bickerton (Apl. 29).

July 3.

Major (temp. Lt.-Col.) W. R. Walker (Major Res. of O.) relinquished his temp. rank on alteration in posting (June 12).

July 6.

Lieut. to be Capt. :—W. R. Williams (April 10).

CANADIAN A.V.C.

July 5.

Capt. to be temp. Maj. :—E. Edgett, A.D.V.S. (June 21).

The following casualties are reported :—
WOUNDED—Capt. C. E. Neill, attached R.F.A.
DIED—Pte. J. Mann, SE/3782; Pte. T. Dawes, 14651; Pte. H. I. McConnel, 2136.

OBITUARY.

WILLIAM HENRY BROWN, M.R.C.V.S., Northampton.
Graduated, Lond : July, 1898.

Mr. Brown's death occurred on June 23, at a nursing home, Beaumont Street, London, W. The interment was at Sywell, Northampton, on 27th.

PALLIN.—On the 29th June, at Badby, Daventry, after many years of patient suffering, Ellen, widow of Major S. L. Pallin, A.V.D., and daughter of the late Robert Adams, of 6 Kensington Park Gardens, W., aged 74.

It is stated in the public press that the Director of Veterinary Research to the Government of South Africa announces that a preventive for horse sickness has been discovered.

CORRESPONDENCE.

THE COLLEGE FINANCES.

Dear Mr. Editor,

I am gratified to find that the subscriptions to the College fund now amounts to the sum of six hundred pounds, but this is not yet sufficient to meet the deficiency on last year's working expenses. I venture to hope, therefore, that the members of the profession will not be weary in well doing. If each member of the profession were actuated by the spirit of the writer of the following letter received from B.E. Africa the anxiety of those responsible for the funds of the College would be at an end.

Copy.

Somewhere in the Bush,
23rd March, 1916.

I was very sorry to read in the January issue of the veterinary journals of the financial straits the Royal College of Veterinary Surgeons is in at present, but I do hope the proposed changes in the examinations will not come into force. I think it is "up to" the graduates to help the College, and have asked my attorney to send you £2 2s. towards the College funds; this sum I will send annually until it works out at £1 1s. per year since I qualified (until 1920), and one guinea per year from that date onward, you may put me down as promising one guinea per annum from and including 1911. I sincerely hope that the members and fellows will come forward with this annual mite—there must be very few that could not spare it—and save the governing body from whittling down the examination to breaking point in the vain attempt to save money at the expense of efficiency, as Mr. Mulvey so aptly phrases it.

All good wishes.—Sincerely yours, M.R.C.V.S.

I don't think I need add anything to the above.

I am, yours faithfully,
W. J. MULVEY.

MILK FEVER.

Dear Sir,—In the note which I supplied giving an account of an attack following abortion in an aged cow, I may have stated the cause of the ailment too definitely. I had never seen a case before, that is why I sent the note to *The Record*. I have seen one on precisely similar lines since—same treatment, same result.

On my visit to the first case I was accompanied by a veterinary surgeon who had been spending the evening with me, so that I am not the only practitioner to have seen it. I have seen cases of milk fever in all kinds and breeds of cows; of all ages: thin ones and fat ones; in cows kept under all kinds of conditions since 1868. Have seen all kinds of treatment tried, including bleeding—at first extolled, then set aside. I do not see why my treatment is not as good as another, since I obtained the desired result—recovery.

I do leave a small bottle of medicine to be given the patient *per os*, and I start with it one hour after injecting the udder. The medicine is contained in a 6 oz. bottle, one-sixth part to be given slowly in half-a-pint of tepid water every three hours. This I have done for the past thirty years. No ill-effects have followed. I have explained how to give it, and have had no objection—rather the reverse—to its use.

The old dosing of treacle, salts, linseed oil, bottled ale and stout, whiskey, aloes, gamboge, chloral, gruel, is never attempted.

The animal, in 49 cases out of 50, recovers; but when, as sometimes happens, the appetite does not return, I give the tonic I named with a good result. I give no aperient medicine at all.

I find the cow recovers. The owner is pleased. I get my fee. What more is required to make the treatment a success?

I do not like the name of Milk Fever, I prefer the name of "Drop after Calving."

I beg to thank Mr. Brown for his queries, and remain, yours faithfully,

P. G. BOND, M.R.C.V.S.

THE TAX ON MOTOR LICENCES.

From G. Stewart, Esq. (Cheshire: Wirrall).

House of Commons,
20th June, 1916.

Dear Sir,—In reply to your letter, I shall be happy to support the amendment in favour of Veterinary Surgeons should it come to a division.—Yours truly, G. STEWART.

Edward F. Wood, Esq., M.R.C.V.S., Chester.

From A. Bigland, Esq. (Birkenhead).

32 Old Queen St., Westminster,
22nd June, 1916.

Dear Sir,—I beg to acknowledge receipt of your letter of 19th June regarding an amendment to the Finance Bill in favour of a rebate in the duty on Motor-cars to Veterinary Surgeons. I fully realise the force of your remarks.

Yours faithfully, ALFRED BIGLAND.

Edward F. Wood, Esq., M.R.C.V.S., Chester.

[The proposed alteration in the incidence of taxation—from cars to petrol—does not alter the fact that Veterinary Surgeons are represented only indirectly in Parliament. The need for further help in this, or in other directions will again arise, and it is desirable that practitioners should, where possible, keep in touch with their local representative.]

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1916 to the College funds:—

F. Booth, Capt. A.V.C.	£1	1	0
E. W. Bovett, Bridgwater	1	1	0
R. Bryden, Capt. A.V.C.	1	1	0
D. Clerk, Stonehaven	1	1	0
W. N. Dobbing, Darlington	1	1	0
T. F. Donworth, Capt. A.V.C.	1	1	0
E. R. Ebbetts, Rochester	1	1	0
G. H. Farrell, Capt. A.V.C.	1	1	0
H. E. Gibbs, Major A.V.C.	1	1	0
H. Gray, London	1	1	0
J. B. A. Hare, Capt. A.V.C.	1	1	0
J. Henderson, Edinburgh	1	1	0
R. P. Holmes, Lieut. A.V.C.	1	1	0
D. Imrie, Bishopbriggs, Glasgow	1	1	0
T. M. Inglis, Forfar	1	1	0
H. McC. Johnston, Capt. A.V.C.	1	1	0
T. Lishman, Major A.V.C.	1	1	0
G. C. Lowe, London	1	1	0
E. Marrison, Bakewell, Derby	1	1	0
T. Menzies, Lieut. A.V.C.	1	1	0
P. J. Mullane, Cardiff	1	1	0
W. H. Nicol, Major A.V.C.	1	1	0
C. C. Parsons, Launceston	1	1	0
F. S. Probyn, Major A.V.C.	1	1	0
A. Robb, Glasgow	1	1	0
W. Robb, Glasgow	1	1	0
G. Simons, Capt. A.V.C.	1	1	0
J. Smith, Capt. A.V.C.	1	1	0
J. Sommerville, Lieut. A.V.C.	1	1	0
C. H. Spurgeon, Petworth, Surrey	1	1	0
J. M. Whyte, Capt. A.V.C.	1	1	0
Previously acknowledged	592	1	6
	£624	12	6

Anglo-Franco-Belgian Veterinary Relief Fund.

The following additional donations are reported:—

T. Lishman, Major A.V.C.	£1	1	0
Glyn Lloyd, Capt. A.V.C.	1	1	0
Previously reported	206	5	3
Total	£208	7	3

The Farriers' Company, with the approval of the War Office, has supplied 150 instructors to teach soldiers the art of "cold shoeing" horses, it being impossible to carry shoeing furnaces into the field. On the Company's register about 8000 shoeing smith's have enrolled themselves.

Enteric Disease in Lambs.

At the June meeting of the Highland and Agricultural Society, Dr. Tocher, the society's analyst, reported that among some samples sent to him recently were the carcases of several lambs which were reported as having died of scour. These lambs were about a week old. No mineral or vegetable poisons were detected in the alimentary canals of these animals, but their stomachs contained more or less wool, while the portions of the bowel wall, which were in a highly inflamed condition, were found to contain organisms associated with gastro-enteritis. He believed it was a case of infection from the soil, and as a preventive measure the setting apart of a grass field for the lambing of ewes had been recommended. He advised that the field should be thoroughlimed at the fall of the year, and that the ewes should be kept in this special grass field for at least a month after lambing. At the end of this period the lambs would have developed more resistive power to infection, and since time would have been allowed for grass to grow longer, there would be less chance of picking up fragments of soil.

A Tuberculous Cow.—£40 fine.

At Southport, Peter Lloyd, a farmer, of Lloyd's Siding, Birkdale, and Henry Slinger, cattle dealer, Wellington Road, Southport, were each fined £20 for cruelty to a cow. Inspector Brown, of the R.S.P.C.A., said the cow was in a very emaciated and exhausted condition. It was being driven towards the station, when it fell, and had to be slaughtered.

Mr. Kershaw, a veterinary surgeon, said the animal was in the last stages of tuberculosis.

Lloyd said that he gave Slinger £8 10s. for the cow six months ago. Up to a week from its removal from his farm the milk was mixed with that from other cows and sold to customers During the last week he gave it to the dog, as he had no pigs. He expected the cow was going to be killed for human food when Slinger took it away.

Slinger stated that he had not the slightest idea the animal was suffering from tuberculosis. If it had been sent to Prescot it would have had to stand in a railway truck all night, and he admitted that this would have been excessive cruelty. He expected to get £8 or £9 for it at Prescot.

Robert Rigby, who slaughtered the cow, said the man was not born yet who could tell when a cow was suffering from tuberculosis. This one was what they called a rubbishy bone cow.

The Chairman (Mr. Dewhurst) said the defendants had had a narrow escape of going to prison.—*Liverpool Daily Post and Mercury.*

Prolonged Gestation.

"My old carriage mare that we use to drive in London foaled on Friday a very fine colt by Wisemac. I have been rather perturbed about the old mare, as the last service was June 11th last year. Is not this something unusual?"

The mare apparently went nearly twelve months, but this is not at all unusual. The longest period a mare has been known to go is considerably more than this. The well-known case of Post Tempore may be cited. This good son of Stockport and Mrs. Gill was carried by his dam for thirteen months and thirteen days, while Black Thrush, the 1910 offspring of Mr. Arthur James's mare Acunha, was due on April 13th that year, but did not appear until May 28th, a month and a half after time.—*Horse and Hound.*

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
	Out-breaks (a)	Animals.	Out-breaks (a)	Animals.	Out-breaks (b)	Animals.	Out-breaks (b)	Animals.	(b)	Out-breaks (a)	Slaughtered. *
Gr. BRITAIN. Week ended July 1	5	7			4	8	26	37	1	108	111
Corresponding week in 1915 ...	10	11			1	4	31	49	1	107	394
Corresponding week in 1914 ...	9	9			6	14	18	23		79	1067
Corresponding week in 1913 ...	6	6			5	11	34	113		66	574
Total for 27 weeks, 1916	322	382	1	24	29	77	1526	3514	178	2723	8196
Corresponding period in 1915 ...	368	412			27	44	‡449	‡960	157	2439	11171
Corresponding period in 1914 ...	450	480	11	74	59	156	1398	2479	147	2267	23638
Corresponding period in 1913 ...	323	348			93	254	1693	3495	121	1296	17611

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :—Gloucester 1, Warwick 1. Board of Agriculture and Fisheries, July 4, 1916 Excluding outbreaks in army horses. Fife 6.

IRELAND. Week ended June 24	...	...	...	...	...	...	Outbreaks 3	5	5	19
Corresponding Week in 1915 ...	...	...	...	...	...	...	3	5	...	1
Corresponding Week in 1914 ...	...	...	...	...	...	...	1	5	1	28
Corresponding Week in 1913 ...	...	...	...	...	...	...	2	9	3	10
Total for 26 weeks, 1916 ...	2	6	...	...	...	...	37	226	159	885
Corresponding period in 1915 ...	1	1	...	...	1	3	36	254	140	822
Corresponding period in 1914 ...	1	1	75	955	...	...	49	347	116	643
Corresponding period in 1913 ...	...	...	...	...	...	...	92	319	85	509

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 26, 1916

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection